themselves to the strict rules and limits of art, but allowed themselves, on the contrary, considerable licence. Mr. Donaldson here referred to a restoration of the temple in question made by himself, from M. Hittorff's descriptions, &c., before he had seen the drawings of that gentleman; and although there were some discrepancies in respect to the colours in the two restorations, a strong general resemblance was, on the whole, observable. Mr. Donaldson then pointed out in detail (referring to the engravings), the application of colour to the various parts of the temple.

The torus of the base was ornamented, in conformity with an authority found at Pompeii. The shafts of the columns had a general tone of yellow, which M. Hittorff conceived to have been the prevailing colour of the building, relieved by picking out several parts in different colours. The capital was modestly picked out, and the order generally, as restored by M. Hittorff, was less bold and positive in colour than in that restored by Mr. Donaldson. Reference was here made to the drawing of an Ionic capital, restored in colours, the original of which had been brought from Athens by Mr. Inwood. Even if it had been necessary to employ a Doric capital, that might have been coloured in the manner shown in the drawings, in which Mr. Semper decorated the abacus of the capital of the Doric column of the Parthenon, as well as the echinus, the latter with egg-and-tongue ornaments. Mr. Donaldson, without any conference with him, had applied the same mode of decoration; for it was not to be supposed that so important a member as the echinus, in the façade of the Parthenon, would be left plain, between the fluted columns below and the rich frieze above. M. Semper stopped at the echinus, but Mr. Donaldson was inclined to think that some small ornament was also introduced upon the hypotrachelium, to give greater height and importance to the capital. In the Roman Doric, and in some examples of the Doric in Asia Minor of a late period, there was actually a sculptured ornament in the necking of the Doric capital. Mr. Donaldson thought, therefore, there was, very possibly, some ornamentation on this member of the order. What, indeed, was its use? In some instances, its lower boundary was formed by a mere line,—in the Theseum not one-eighth of an inch deep,—and therefore it was highly probable that, as a division between the capital and the shaft, it had some decoration to give it emphasis and expression.

In noticing the decoration of the entablature, Mr. Donaldson adverted to the statement of Vitruvius, that the ends of the beams (represented by the triglyphs) were painted with a blue wax. At Pompeii, instances were found where the triglyphs were blue, and the metopes of a lighter colour; and there was an indication of blue paint on the triglyphs of an Etruscan tomb, engraved in M. Semper's work. In reference to the tympanum, Mr. Donaldson expressed a general opinion that sculpture was freely and even lavishly employed by the Greeks as a necessary adjunct to their temples, to impress upon the mind of the beholder the purpose and object of the building. The fronts of the Parthenon strikingly exemplified this view, and it was ably enforced in Mr. Penrose's recent work. Although there was not a fragment of sculpture left in the tympana of the Theseum, Mr. Penrose had discovered the holes by which the figures had been attached to the building. In restoring the tympanum of the pediment of the Sicilian temple, M. Hittorff finding no traces of sculpture, had adopted a foliated ornament, based upon fragments of terra-cotta found in the same island. The metopes were also ornamented with a foliated pattern, on similar authority. It was well known that the friezes of temples were richly decorated, often with figures and representations of processions; and although the frieze of the Erechtheum, at present, was of a plain dark-coloured marble, it was originally ornamented with figures in white marble. In the Theseum, only a few of the metopes on the return were sculptured, and by some it has been supposed that the rest were painted. M. Von Klenze, in examining the fragments of the Propylæa, found that some of the blocks, which he supposed to belong to the metopes, were sunk to receive sculpture, whilst others had a perfectly plain face, and were incapable of receiving any, and he therefore thought they were intended to be decorated by painting. Mr. Donaldson, however, did not think there was sufficient authority for that opinion, because it would be an arrangement not only inconsistent in itself, but difficult to carry out satisfactorily, as it would involve the necessity of placing a triglyph, instead of a metope, in the centre, under the pediment on either front. With reference to the background of the tympanum, M. Hittorff had coloured it red in his restoration. Undoubtedly that surface generally bore colour of considerable depth, in order to throw out the sculpture, because the figures themselves, and the draperies, were painted, and consequently rendered a coloured ground necessary. Some fragments of the Parthenon had been thought to show traces of a red ground, and that colour had been adopted by M. Semper in his restoration of the Parthenon. The more general opinion, however, and that adopted by Mr. Owen Jones, was that the ground of the tympanum had been blue. Mr. Donaldson next referred to a running ornament introduced by M. Hittorff on the architrave. The application of colour, by M. Hittorff, to the mouldings of the pediment, was sanctioned by the authority of M. Semper, Mr. Owen Jones, and Dr. Kugler, though each of these gentlemen applied different colours. Mr. Penrose had found traces of the design of an ornament on the crowning ovolo of the Parthenon.

It was to be observed that the forms of decorative art were to be traced by progressive steps: what was at first a mere superficial delineation of ornament, afterwards became a substantial embodiment in sculpture. A question had been raised whether these ornaments were not the production of a later period, and of a less refined and more voluptuous taste; but, in fact, the design of the ornaments was of the same style, in purity of conception, as the monument itself. The fragments in the British Museum had the outlines of the ornaments deeply engraved upon the face of the mouldings, which it was not likely would have been so treated, if the ornaments painted on them were a subsequent addition. The system, moreover, was not one of mere occasional introduction, but was generally adopted. The acroteria and antefixæ were introduced in M. Hittorff's restoration; and their importance, in adding to the effect of the elevation, must be admitted. There was ample authority for them, for they were actually discovered among the remains of the Temple at Ægina, and the blocks for their reception still remain on the Parthenon. The question of the mode of covering the temple had been carefully studied by M. Hittorff. Byzes of Naxos was the first to introduce tiles of marble, common tiles having previously been employed. The refined taste of the Greeks led them from an early period to apply ornament to their roof-tiles. By putting together the fragments found in other places, M. Hittorff had restored the roof of the Sicilian temple at Selinus, in the manner shown in the drawing. The tiles were often painted on the inside as well as outside, because they sometimes formed the whole covering of the temple, and were visible from the interior. In other cases, as in the Parthenon, horizontal beams were used, dividing the roof into caissons.

Before proceeding to the interior of the building, the wall of the pronaos was described. The whole of this was coloured: first, there was a dado of dark colour, and of considerable height: this dado was a remarkable and effective feature in the Greek temples: sometimes it projected slightly above that were panels of lighter colour. All these decorations were authorised by paintings discovered at Pompeii, drawings of which were referred to. The door-cases of the temples were of stone, marble, or bronze. From his own examination of the Parthenon and the Propylæa, Mr. Donaldson was of opinion that bronze had been so employed in both these edifices: they were probably gilt and embellished with a great variety of beautiful colours. The doors themselves were formed either of marble, wood, bronze, or mixed materials. Cicero, in his oration against Verres for maladministration in Sicily, referred to the beautiful doors of the temple of Minerva, which were enriched with panels of ivory. The bronze doors of the Pantheon were illustrated in the work of Messrs. Taylor and Cresy. In M. Hittorff's restoration, the doors were supposed to be of bronze of various tones or tints. Of course, the colours of the Florentine, the Venetian, and other bronzes, might be introduced, to relieve and add to the effect. The upper panel was open to admit air, and light, which was more necessary, for these temples were very dark, and chiefly lighted by lamps perpetually burning, as was still the case in the modern Greek church.*

A GRAVE QUESTION, IN WHICH DOCTORS DIFFER.

DOES LEAD POISON WITH HARD WATER, OR WITH SOFT, OR WITH BOTH?

HAVING, of course, a strong preference for soft water rather than hard for culinary and other domestic use, and being anxious that the metropolitan multitude should be provided with pure soft water, not only for economy and cleanliness in washing, but for health and freedom from painful and fatal complaints which there is but too good reason to believe are generated, or at least promoted, apart altogether from lead, by the continual use of hard water,—there is one question relative to the substitution of soft water for hard as well as pure for impure, which ought not to be allowed to remain longer in its present unsettled, contradictory, and dangerous position,—namely, the question relative to the poisonous influence of leaden pipes and cisterns on water, soft or hard, pure or impure, or on both.

Until lately, it has been an axiom with our standard chemical writers on toxicology and medical police and jurisprudence, that the softer and purer the water, the more likely is it to act on lead, and to be thereby poisonously impregnated; and that the harder the water, the more likely is it to remain pure and unimpregnated by the lead.

True, these hitherto accredited authors have admitted or declared, on the one hand, that perfectly pure soft water, *per se*, will not act on lead, and, on the other hand, that hard water will. But then they have explained the apparent inconsistency of such a declaration with their own prudential and most important axiom, by alleging that, on the one hand, lead with pure soft water is liable to be so influenced by the air, and by carbonic acid gas, dissolved in the water, as to become corroded, and then to impregnate and poison the water continually; while, on the other hand, lead with hard water, and especially with neutral sulphates, such as that of lime so usual in hard water, is so acted on by the salts contained in hard water, as to become incrusted with its own corrosion, and thus protected either from farther waste in itself, or from contributing any continued poisonous impregnation to the water.

Since the agitation of the metropolitan supply question, however, and the prevalence of a very general desire to substitute pure soft water for the hard and otherwise shockingly impure supply at present in use, evidence has been adduced which, *ex facie*, appears expressly to contradict these heretofore established axioms. We feel it therefore absolutely necessary to insist that this vital and most important subject shall be forthwith fully examined, discussed, and settled; so that, if it, on the one hand, shall indeed be found that the desired supply of pure soft water is not attainable with safety so long as leaden pipes and cisterns shall continue to be used, the public and the profession shall be timeously warned, and, in the event of such a supply being provided, measures of an effectual nature be taken to obviate the anticipated mischief; or, on the

* On the 26th Mr. Donaldson will give a general *résumé* of the subject, in order that it may be discussed by the meeting.

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